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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/541,903

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Michael Broderick

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EXAMINER

MCCALISTER, WILLIAM M

ART UNIT

PAPER NUMBER

3753

NOTIFICATION DATE

DELIVERY MODE

12/09/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptomail@rkmlegalgroup.com

Office Action Summary	Application No. 10/541,903	Applicant(s) BRODERICK, MICHAEL	
	Examiner WILLIAM MCCALISTER	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19,22 and 24-38 is/are pending in the application.
- 4a) Of the above claim(s) 30-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19,22,24-29 and 38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-18, 20, 21 and 23 have been cancelled. Claims 30-37 have been withdrawn.
Claims 19, 22, 24-29 and 38 are pending for immediate consideration.

Claim Objections

1. Claim 19 is objected to because of the following informalities: at line 6, the word "response" should read --responsive--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 28 and 38 have been amended to recite "the input flow flange valve body" (at their second-to-last lines), for which there are no antecedent bases. It will be assumed that Applicant intended to delete the words "valve body" from these phrases.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 19, 22, 27 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Perkins (US 4,044,834).

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Regarding claim 19, Perkins discloses a valve for enabling release of pressurized fluid from a fluid pressure vessel (113'), the valve comprising:

an input flow flange (seen at the top of Fig. 6), a discharge flow flange (at the right of Fig. 6) and a displaceable closure member (148'), which seals the discharge flow flange to prevent a release of fluid from the fluid pressure vessel (113') in its closed disposition (by virtue of the seal between members 175 and 151' when the valve is closed); and

wherein the displaceable closure member (148') is responsive to fluid pressure and is maintained in said closed disposition when the fluid pressure vessel (113') is in a charged condition, such that pressure of fluid within the fluid pressure vessel (113') is active to hold the displaceable closure member (148') in said closed disposition (see col. 7 lines 35-37);

wherein the closure member (148') is displaceable from said closed disposition to an open disposition against the pressure of the fluid within the fluid pressure vessel (113') for said release of pressurized fluid from the fluid pressure vessel (113') by a double-acting actuator (114', 126', 128') including a drive piston (126') and a spindle (128') that is connected to the drive piston (126') and to the closure member (148'); and

wherein the spindle (128') is connected to and extends from a side of the closure member (148') to which the pressure of the fluid is applied (i.e., it extends into pressure vessel 113') and is arranged coaxially with the discharge flow flange (see Fig. 6).

(It is noted that the recitation of steam is directed to an intended operating media of the claimed valve, and does not further define the structure of the claimed valve. As such, this recitation is met in that Perkins' valve is capable of controlling the flow of steam just as it is capable of controlling the flow of fluids from a well bore.)

Regarding claim 22, Perkins discloses the double-acting actuator (114, 126', 128') to comprise a fluid-driven piston (126') / cylinder (114') device. It is noted that the recitation of air is directed to an intended operating media of the claimed valve, and does not further define the structure of the claimed valve. As such, this recitation is met in that Perkins' piston is capable of being driven by air just as it is capable of being driven by hydraulic fluid.

Regarding claim 27, Perkins discloses the closure member (148') to be mounted for (i.e., capable of) substantially vertical displacement between said closed disposition and said open disposition thereof (if the valve were oriented perpendicular to its orientation shown in Figure 6, for example).

Regarding claim 29, Perkins discloses a product treatment system comprising:

a valve (see Fig. 6) for enabling release of pressurized fluid from a fluid pressure vessel (113'), the valve comprising an input flow flange (at the top of Fig. 6), a discharge flow flange (at the right of Fig. 6) and a displaceable closure member (148'), which seals the discharge flow flange to prevent a release of fluid from the fluid pressure vessel

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(113') in its closed disposition (by virtue of the seal between members 175 and 151' when the valve is closed), and

wherein the displaceable closure member (148') is responsive to fluid pressure and is maintained in said closed disposition when the fluid pressure vessel (113') is in a charged condition, such that pressure of fluid within the fluid pressure vessel (113') is active to hold the displaceable closure member (148') in said closed disposition (see col. 7 lines 35-37);

wherein the closure member (148') is displaceable from said closed disposition to an open disposition against the pressure of the fluid within the fluid pressure vessel (113') for said release of pressurized fluid from the fluid pressure vessel (113') by a double-acting actuator (114', 126', 128') including a drive piston (126') and a spindle (128') that is connected to the drive piston (126') and to the closure member (148');

wherein the spindle (128') is connected to and extends from a side of the closure member (148') to which the pressure of the fluid is applied (i.e., it extends into pressure vessel 113') and is arranged coaxially with the discharge flow flange (see Fig. 6); and

wherein the valve is mounted for release of pressurized fluid into an expansion region (72'; which is larger than the opening between the valve element and valve seat when the valve begins to open) substantially at the point of entry of fluid into said expansion region.

(It is noted that the recitation of steam is directed to an intended operating media of the claimed valve, and does not further define the structure of the claimed valve. As

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such, this recitation is met in that Perkins' valve is capable of controlling the flow of steam just as it is capable of controlling the flow of fluids from a well bore.)

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 22, 27-29 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins.

Regarding claim 22, Perkins discloses the invention as claimed with exception to the use of air to operate the piston. However, hydraulic and pneumatic fluids were recognized in the art as functional equivalents for the purpose of actuating pistons, and it would have been obvious at the time of invention to utilize pneumatic rather than hydraulic fluid to actuate Smith's piston, for instance to decrease the risk of environmental contamination.

Regarding claim 27, Perkins' valve is capable of operating in an orientation such that displacement of the closure member occurs vertically, although Perkins does not disclose such a vertical orientation. It would have been obvious to one of ordinary skill in the art at the time of invention to mount Perkins' valve in such a manner for instance where the orientation of the supply and relief conduits of the system to which it is to be connected require as much.

Regarding claims 28 as understood, Perkins discloses the invention as claimed, with exception to the relative flange sizes. At the time the invention was made, it would have been an obvious to a person of ordinary skill in the art to utilize a larger discharge flow flange than input flow flange, where for instance pipe size considerations of the system in which the valve is to be used require as much.

Alternatively, regarding claim 29, Perkins discloses the invention as claimed with exception to the expansion region. It would have been obvious to use a relatively large diameter pipe downstream of the valve to predictably decrease the resistance to flow therethrough. As such, the pipe would constitute the claimed expansion region.

Regarding claim 38 as understood, Perkins discloses a product treatment system comprising:

a valve (see Fig. 6) for enabling release of pressurized fluid from a fluid pressure vessel (113'), the valve comprising an input flow flange (at the top of Fig. 6), a discharge flow flange (at the right of Fig. 6) and a displaceable closure member (148'), which seals the discharge flow flange to prevent a release of fluid from the fluid pressure vessel (113') in its closed disposition (by virtue of the seal between members 175 and 151' when the valve is closed); and

wherein the displaceable closure member (148') is responsive to fluid pressure and is maintained in said closed disposition when the fluid pressure vessel (113') is in a

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charged condition, such that pressure of fluid within the fluid pressure vessel (113') is active to hold the displaceable closure member (148') in said closed disposition (see col. 7 lines 35-37);

wherein the closure member (148') is displaceable from said closed disposition to an open disposition against the pressure of the fluid within the fluid pressure vessel (113') for said release of pressurized fluid from the fluid pressure vessel (113') by a double-acting actuator (114', 126', 128') including a drive piston (126') and a spindle (128') that is connected to the drive piston (126') and to the closure member (148'); and

wherein the spindle (128') is connected to and extends from a side of the closure member (148') to which the pressure of the fluid is applied (i.e., it extends into pressure vessel 113') and is arranged coaxially with the discharge flow flange (see Fig. 6).

Perkins does not disclose the relative flange sizes. At the time the invention was made, it would have been an obvious to a person of ordinary skill in the art to utilize a larger discharge flow flange than input flow flange, where for instance pipe size considerations of the system in which the valve is to be used require as much.

(It is noted that the recitation of steam is directed to an intended operating media of the claimed valve, and does not further define the structure of the claimed valve. As such, this recitation is met in that Perkins' valve is capable of controlling the flow of steam just as it is capable of controlling the flow of fluids from a well bore.)

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8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of Weaver (US 6,302,136).

Perkins discloses the invention as claimed with exception to an explicit recitation of metal-to-metal contact of the valve member and seat. Weaver teaches that it was known in the art at the time of invention to employ a metal-to-metal interface of a valve member and seat without a sealing element in a valve for handling steam (see abstract). To use Perkins' valve to control the flow of steam, it would have been obvious to one of ordinary skill in the art at the time of invention to mount the valve member for substantially metal-to-metal contact with a valve seat portion, as taught by Weaver.

9. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of Tartaglia (US 5,078,177).

Perkins discloses the invention as claimed, including a face portion of the valve member, but does not disclose the face portion to be interchangeably secured to the remainder of the closure member. Tartaglia teaches a similar valve wherein the face portion of the valve member is interchangeably secured to the remainder of the closure member (see column 3 lines 44-51). To obtain a longer operational life from Perkins' valve, it would have been obvious to one of ordinary skill in the art at the time of invention use an interchangeable valve face therewith so that that the valve face can be replaced when worn.

10. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of Walker (US 3,658,092).

Perkins discloses the invention as claimed including a seat portion of a valve body. Perkins does not disclose the seat portion to be interchangeably secured to the valve body portion in the seat region. Walker teaches a similar valve which uses interchangeable seat portions (see column 2 lines 62-64). To obtain a longer operational life from Perkins' valve, it would have been obvious to one of ordinary skill in the art at the time of invention use an interchangeable valve seat therewith so that that the valve seat can be replaced when worn.

Response to Arguments

11. Applicant's arguments filed 10/6/2009 have been fully considered but they are not persuasive. Applicant argues that Perkins "clearly states that it is the force exerted by the piston head 126' that controls the movement of the valve" and therefore "the valve of Perkins is not held in the closed disposition by the pressure of the fluid" (Remarks, p. 7). In response, this characterization is at odds with clear disclosure of Perkins. Because fluid in chamber 113' contacts face 150' of the closure member, it will exert a rightward force thereon (i.e., toward the closing direction). See col. 7 lines 35-38.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM MCCALISTER whose telephone number is (571)270-1869. The examiner can normally be reached on Monday through Friday, 9-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WILLIAM MCCALISTER/
Examiner, Art Unit 3753

11/22/2009

/Robin O. Evans/
Supervisory Patent Examiner, Art Unit 3753